

CLAIMS

1. A robot adapted to operate in association with an interface surface having disposed therein or thereon coded data indicative of an identity of the interface surface and of a plurality of reference points of the interface surface, the robot comprising:
- 5 (1) movement means to allow the robot to move over the interface surface;
- (2) a sensing device which senses at least some of the coded data and generates indicating data indicative of the identity of the interface surface and of a position of the robot on the interface surface;
- (3) communication means to:
- 10 (A) transmit the indicating data to a computer system, the computer system programmed to select and execute a computer application based on at least the identity of the interface surface; and,
- (B) receive movement instructions from the selected computer application,
- whereby, the behaviour of the robot is at least in part controlled by the selected computer application.
- 15 2. A robot adapted to operate in association with an interface surface having disposed therein or thereon coded data indicative of an identity of the interface surface and of a plurality of reference points of the interface surface, the robot comprising:
- (1) movement means to allow the robot to move over the interface surface;
- (2) a sensing device which senses at least some of the coded data and generates indicating data
- 20 indicative of the identity of the interface surface and of a position of the robot on the interface surface;
- (3) a processor adapted to:
- (C) select and execute a computer application based on at least the identity of the interface surface; and,
- (D) generate movement instructions;
- 25 whereby, the behaviour of the robot is at least in part controlled by the selected computer application.
3. The robot as claimed in claim 2, wherein the processor is programmed to select the computer application from a plurality of computer applications stored in at least one memory of the robot.
- 30 4. The robot as claimed in claim 2, further including a communications means to:
- (A) transmit data indicative of at least the identity of the interface surface to a computer system, the computer system programmed to select the computer application based on at least the identity of the interface surface; and,
- (B) receive the computer application from the computer system.
- 35 5. The robot as claimed in claim 1 or claim 4, wherein the robot has a unique robot identifier which is adapted to distinguish the robot from other robots.

6. The robot as claimed in claim 5, wherein the computer system is adapted to receive the robot identifier.
7. The robot as claimed in claim 1 or claim 4, wherein the indicating data is transmitted to the computer system by a wireless signal.
8. The robot as claimed in claim 7, wherein the computer system is adapted to receive the indicating data via a relay device in wireless communication with the robot.
9. The robot as claimed in claim 8, wherein the relay device is a mobile or cellular telephone.
10. The robot as claimed in claim 7, wherein the wireless signal is a radio-frequency signal.
11. The robot as claimed in claim 1 or claim 2, wherein the plurality of reference points are two-dimensional co-ordinate positions on the interface surface.
12. The robot as claimed in claim 1 or claim 2, wherein the coded data is substantially invisible to an unaided human eye.
13. The robot as claimed in claim 12, wherein the coded data is printed in infrared absorptive ink.
14. The robot as claimed in claim 13, wherein the sensing device includes at least one infrared illumination device and an area image sensor.
15. The robot as claimed in claim 1 or claim 2, wherein the interface surface is a netpage.
16. The robot as claimed in claim 1 or claim 4, wherein the robot includes an image or video display.
17. The robot as claimed in claim 16, wherein the display is able to show an image or video of a remote operator of the robot.
18. The robot as claimed in claim 1 or claim 2, wherein the robot includes a speaker for generating audio.
19. The robot as claimed in claim 1 or claim 2, wherein the robot includes a microphone for capturing audio.
20. The robot as claimed in claim 1 or claim 4, wherein the movement of the robot mirrors the movement of a remote device communicating with the computer system.

21. The robot as claimed in claim 1 or claim 2, wherein the computer application controls play of a game and the robot behaviour is characteristic of a piece in the game.
- 5 22. The robot as claimed in claim 21, wherein more than one robot participates in the game.
23. The robot as claimed in claim 1 or claim 4, wherein the robot can be remotely controlled by a user.
24. The robot as claimed in claim 1 or claim 2, wherein the interface surface is a game-playing surface
10 having markings that are visible to a normal unaided human eye.
25. The robot as claimed in claim 24, wherein the visible markings include at least one game-control button.
- 15 26. The robot as claimed in claim 25, wherein the at least one game-control button includes resume, resign, new game, gather or the like options.
27. The robot as claimed in claim 24, wherein the game-playing surface is a chess board.
- 20 28. A robot adapted to operate in association with an interface surface having disposed therein or thereon coded data indicative of an identity of the interface surface and of a plurality of reference points of the interface surface, the robot comprising:
- (1) at least one motor and at least one drive mechanism to propel the robot over the interface surface;
 - 25 (2) at least one motor controller to control the motor;
 - (3) a sensing device which senses at least some of the coded data and generates indicating data indicative of the identity of the interface surface and of a position of the robot on the interface surface;
 - (4) a radio transceiver to:
 - (A) transmit the indicating data to a computer system, the computer system programmed to
30 execute a program based on at least the identity of the interface surface; and,
 - (B) receive movement instructions from the program;
- whereby, the behaviour of the robot is substantially controlled by the program.
29. The robot as claimed in claim 28, wherein the program is selected from a plurality of programs on
35 the computer system.
30. A robot adapted to operate in association with an interface surface having disposed therein or thereon coded data indicative of an identity of the interface surface and of a plurality of reference points of the interface surface, the robot comprising:

(1) at least one motor and at least one drive mechanism to propel the robot over the interface surface;

(2) at least one motor controller to control the motor;

(3) a sensing device which senses at least some of the coded data and generates indicating data indicative of the identity of the interface surface and of a position of the robot on the interface surface;

(4) a processor to:

(C) select and execute a program based on at least the identity of the interface surface; and,

(D) generate movement instructions;

whereby, the behaviour of the robot is substantially controlled by the program.

31. The robot as claimed in claim 30, wherein the processor is programmed to select the program from a plurality of programs stored in at least one memory of the robot.

32. The robot as claimed in claim 30, further including a radio transceiver to:

(A) transmit data indicative of at least the identity of the interface surface to a computer system, the computer system programmed to select the program based on at least the identity of the interface surface; and,

(B) receive the program from the computer system.

33. A system for controlling the movement of a robot, the system comprising:

(1) an interface surface having disposed therein or thereon coded data indicative of an identity of the interface surface and of a plurality of reference points of the interface surface;

(2) a computer system, the computer system programmed to select and execute a computer application based on at least the identity of the interface surface, the computer system able to communicate with the robot;

(3) the robot adapted to operate in association with the interface surface, the robot including:

(A) movement means to allow the robot to move over the interface surface;

(B) a sensing device which senses at least some of the coded data and generates indicating data indicative of the identity of the interface surface and of a position of the robot of the interface surface; and,

(C) communication means to transmit the indicating data to the computer system and receive movement instructions from the selected computer application;

whereby, the behaviour of the robot is at least in part controlled by the selected computer application.

34. A method of controlling the movement of a robot, the robot adapted to operate in association with an interface surface having disposed therein or thereon coded data indicative of an identity of the interface surface and of a plurality of reference points of the interface surface, the robot additionally provided with movement means to allow the robot to move over the interface surface and a sensing device which senses at

least some of the coded data and generates indicating data indicative of the identity of the interface surface and of a position of the robot on the interface surface, the method including the steps of:

the robot transmitting the indicating data to a computer system, the computer system programmed to select and execute a computer application based on at least the identity of the interface surface; and,

5 the robot receiving movement instructions from the selected computer application.

35. A method of controlling the movement of a robot, the robot adapted to operate in association with an interface surface having disposed therein or thereon coded data indicative of an identity of the interface surface and of a plurality of reference points of the interface surface, the robot additionally provided with
10 movement means to allow the robot to move over the interface surface and a sensing device which senses at least some of the coded data and generates indicating data indicative of the identity of the interface surface and of a position of the robot on the interface surface, the method including the steps of:

the robot processing the indicating data in a processor, the processor executing a program based on at least the identity of the interface surface; and,

15 the processor providing movement instructions from the program.